

Kramer Electronics, Ltd.



USER MANUAL

Model:

VP-435

Component / UXGA HDMI Scaler

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1 Introduction

Welcome to Kramer Electronics! Since 1981, Kramer Electronics has been providing a world of unique, creative, and affordable solutions to the vast range of problems that confront the video, audio, presentation, and broadcasting professional on a daily basis. In recent years, we have redesigned and upgraded most of our line, making the best even better! Our 1,000-plus different models now appear in 11 groups¹ that are clearly defined by function.

Congratulations on purchasing your Kramer **VP-435 Component / UXGA HDMI Scaler**. This product, which incorporates HDMI™ technology, is ideal for:

- Projection systems in conference rooms, boardrooms, hotels and churches
- Home theater up-scaling

The package includes the following items:

- **VP-435 Component / UXGA HDMI Scaler**
- Power adapter (12V DC input)
- Infrared remote control transmitter
- This user manual²

2 Getting Started

We recommend that you:

- Unpack the equipment carefully and save the original box and packaging materials for possible future shipment
- Review the contents of this user manual
- Use Kramer high performance high resolution cables³

2.1 Quick Start

This Quick start chart summarizes the basic setup and operation steps.

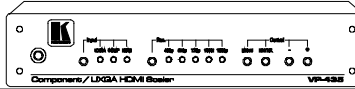
1 GROUP 1: Distribution Amplifiers; GROUP 2: Switchers and Matrix Switchers; GROUP 3: Control Systems; GROUP 4: Format/Standards Converters; GROUP 5: Range Extenders and Repeaters; GROUP 6: Specialty AV Products; GROUP 7: Scan Converters and Scalers; GROUP 8: Cables and Connectors; GROUP 9: Room Connectivity; GROUP 10: Accessories and Rack Adapters; GROUP 11: Sierra Products

2 Download up-to-date Kramer user manuals from the Internet at this URL: <http://www.kramerelectronics.com>

3 The complete list of Kramer cables is on our Web site at <http://www.kramerelectronics.com>

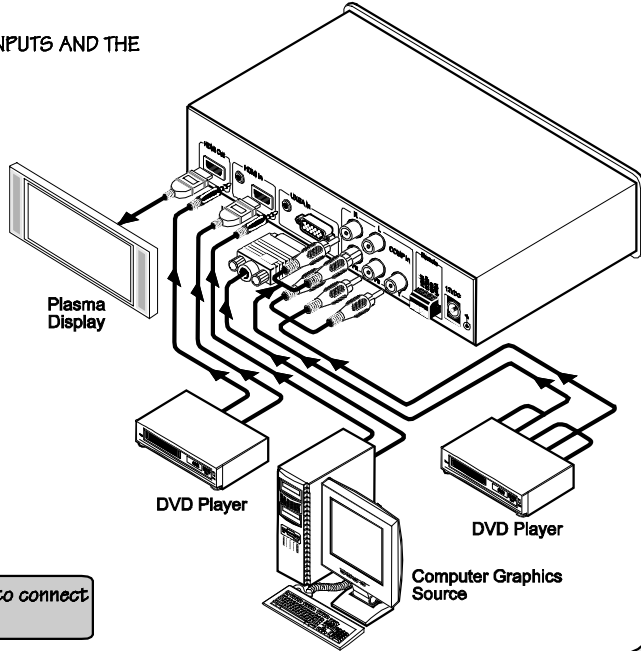
Step 1: Mount the machine

Mount the machine in a rack or stick the 4 rubber feet to the underside



Step 2: Connect the Input and outputs - see section 5

CONNECT THE INPUTS AND THE OUTPUT

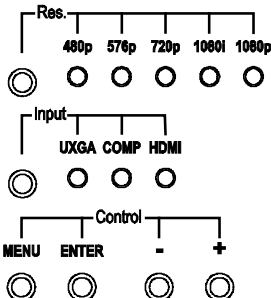


You do not have to connect all the inputs

Step 3: Turn the power ON

Step 4: Control the machine - see section 6

VIA THE FRONT PANEL BUTTONS



Select the output resolution

Select the INPUT

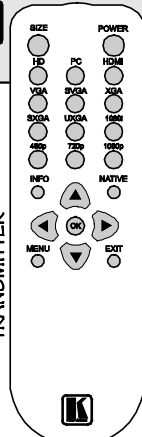
CONTROL via the OSD menu

VIA THE REMOTE PINS

By momentarily connecting the appropriate input number PIN (HDMI, COMP or UXGA) to the GND (Ground)



VIA THE IR REMOTE CONTROL TRANSMITTER



3 Overview

The Kramer **VP-435** is a high quality component video/UXGA to HDMI scaler. It accepts one of three inputs: either component video¹ on RCA connectors, computer graphics on a 15-pin HD connector, or an HDMI signal (selected via a front panel selector button or via the Remote contact closure switch). It scales the video, embeds the audio, and outputs the signal to the HDMI output.

The **VP-435** *Component / UXGA HDMI Scaler*:

- Is HDTV compatible and the resolution can be scaled up to 480p, 576p, 720p, 1080i or 1080p via a front panel selector button²
- Has analog audio inputs for the COMP, UXGA and HDMI inputs
- Automatically detects and selects the audio source for the HDMI input. Default selection is HDMI – if this is not present, then the machine uses the audio from the analog input
- Comes with an On-Screen Display (OSD) for easy setup and adjustment, accessible via the IR remote control and via the front-panel buttons
- Has a non-volatile memory that retains the last settings used
- Is housed in a desktop sized enclosure and is 12VDC fed

Control your **VP-435**:

- Directly, via the front panel push buttons
- Remotely, from the infrared remote control transmitter
- Remotely, from the Remote contact closure switch

3.1 About HDMI

High-Definition Multimedia Interface (HDMI) is an uncompressed all-digital³ audio/video interface, widely supported in the entertainment and home cinema industry. It delivers the highest high-definition image and sound quality. Note that Kramer Electronics Limited is an HDMI Adopter and an HDCP Licensee.

1 Also known as Y, Pb, Pr, Y, Cb, Cr and YUV; compatible with both SD and HD component

2 Other resolutions can be selected via the OSD menu. These include: 1080i, 1080p, 576i, 576p, 720p, 1080i, 1080p, WXGA, WSXGA, WUXGA, NATIVE, VGA, SVGA, XGA, SXGA, UXGA, 480i, 480p

3 Ensuring an all-digital rendering of video without the losses associated with analog interfaces and their unnecessary digital-to-analog conversions

In particular, HDMI¹:

- Provides a simple² interface between any audio/video source, such as a set-top box, DVD player, or A/V receiver and video monitor, such as a digital flat LCD / plasma television (DTV), over a single lengthy³ cable
- Supports standard, enhanced, high-definition video, and multi-channel digital audio⁴ on a single cable
- Transmits all ATSC HDTV standards and supports 8-channel digital audio, with bandwidth to spare to accommodate future enhancements and requirements
- Benefits consumers by providing superior, uncompressed digital video quality via a single cable⁵, and user-friendly connector
- Is backward-compatible with DVI (Digital Visual Interface)
- Supports two-way communication between the video source (such as a DVD player) and the digital television, enabling new functionality such as automatic configuration and one-button play

HDMI has the capacity to support existing high-definition video formats (720p, 1080i, and 1080p/60), standard definition formats such as NTSC or PAL, as well as 480p and 576p.

1 HDMI, the HDMI logo and High-Definition Multimedia Interface are trademarks or registered trademarks of HDMI licensing LLC

2 With video and multi-channel audio combined into a single cable, the cost, complexity, and confusion of multiple cables currently used in A/V systems is reduced

3 HDMI technology has been designed to use standard copper cable construction at up to 15m

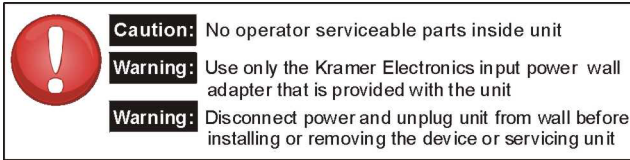
4 HDMI supports multiple audio formats, from standard stereo to multi-channel surround-sound. HDMI has the capacity to support Dolby 5.1 audio and high-resolution audio formats

5 HDMI provides the quality and functionality of a digital interface while also supporting uncompressed video formats in a simple, cost-effective manner

3.2 Recommendations for Best Performance

To achieve the best performance:

- Connect only good quality connection cables, thus avoiding interference, deterioration in signal quality due to poor matching, and elevated noise-levels (often associated with low quality cables)
- Avoid interference from neighboring electrical appliances and position your Kramer **VP-435** away from moisture, excessive sunlight and dust



4 Your VP-435 Component / UXGA HDMI Scaler

[Figure 1](#), [Table 1](#) and [Table 2](#) define the **VP-435 Component / UXGA HDMI Scaler**:

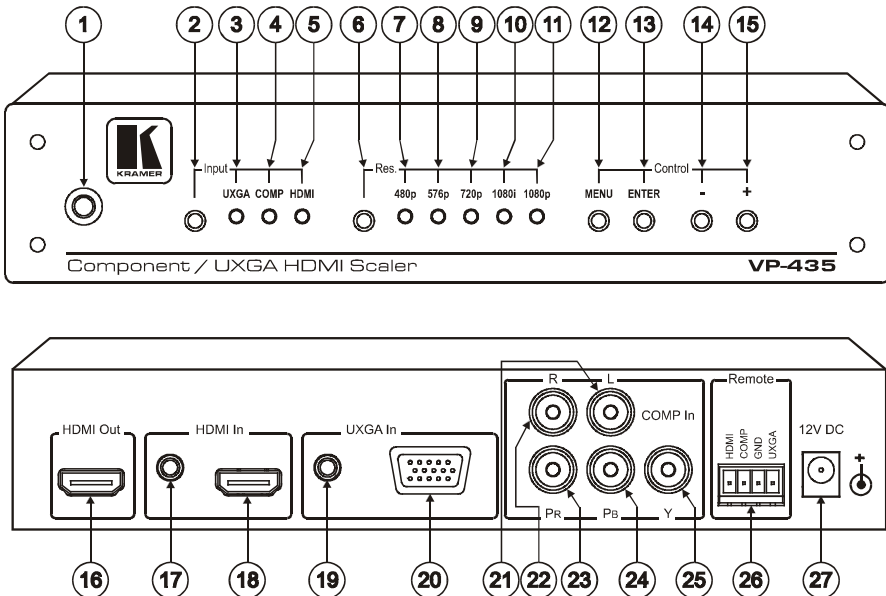


Figure 1: VP-435 Component / UXGA HDMI Scaler – Front and Rear View

Table 1: VP-435 Component / UXGA HDMI Scaler Front Panel Features

#	Feature	Function
1	IR Receiver	Receives signals from the remote control transmitter
2	Input	Selector Button
3		UXGA Indicator LED
4		COMP Indicator LED
5		HDMI Indicator LED
6	Res.	Selector Button
7		480p Indicator LED
8		576p Indicator LED
9		720p Indicator LED
10		1080i Indicator LED
11		1080p Indicator LED
12	Control	MENU Button
13		ENTER Button
14		- Button
15		+ Button

Table 2: VP-435 Component / UXGA HDMI Scaler Rear Panel Features

#	Feature	Function
16	HDMI Out Connector	Connects to the HDMI acceptor
17	HDMI In	3.5mm Mini Jack Connector
18		HDMI Connector
19	UXGA In	3.5mm Mini Jack Connector
20		UXGA 15-pin HD Connector
21	COMP In	L RCA Connector
22		R RCA Connector
23		Pr RCA Connector
24		Pb RCA Connector
25		Y RCA Connector
26	Remote Terminal Block	Connects to a contact closure switch (see section 5.1)
27	12 VDC	+12V DC connector for powering the unit

¹ See section [6.2.2](#)

² The audio source is automatically detected and selected. The default selection is the audio signal embedded in the HDMI signal. If this is not present, then the machine uses the audio from the analog input

³ For component video, connect all three connectors: Y, Cb, Cr (also known as YUV)

5 Connecting the VP-435 Component / UXGA HDMI Scaler

To connect¹ your **VP-435**, as illustrated in the example in [Figure 2](#), do the following:

1. Connect a component video source (for example, a DVD player) to the COMP In Y, Pb, Pr, RCA connectors, and to the COMP In L and R audio RCA connectors.
2. Connect a computer graphics source to the UXGA In 15-pin HD connector, and to the UXGA In audio 3.5mm mini jack connector.
3. Connect an HDMI source (for example, a DVD player) to the HDMI In connector², and to the HDMI In analog audio 3.5mm mini jack connector.
4. Connect the HDMI Out connector to an HDMI acceptor (for example, a plasma display).
5. Connect the 12V DC power adapter to the power socket and connect the adapter to the mains electricity (not shown in [Figure 2](#)).

¹ You do not have to connect all the inputs, connect only those that are required

² Alternatively, you can connect the DVI connector on the DVD player to the HDMI connector on the VP-435 via a DVI-HDMI adapter

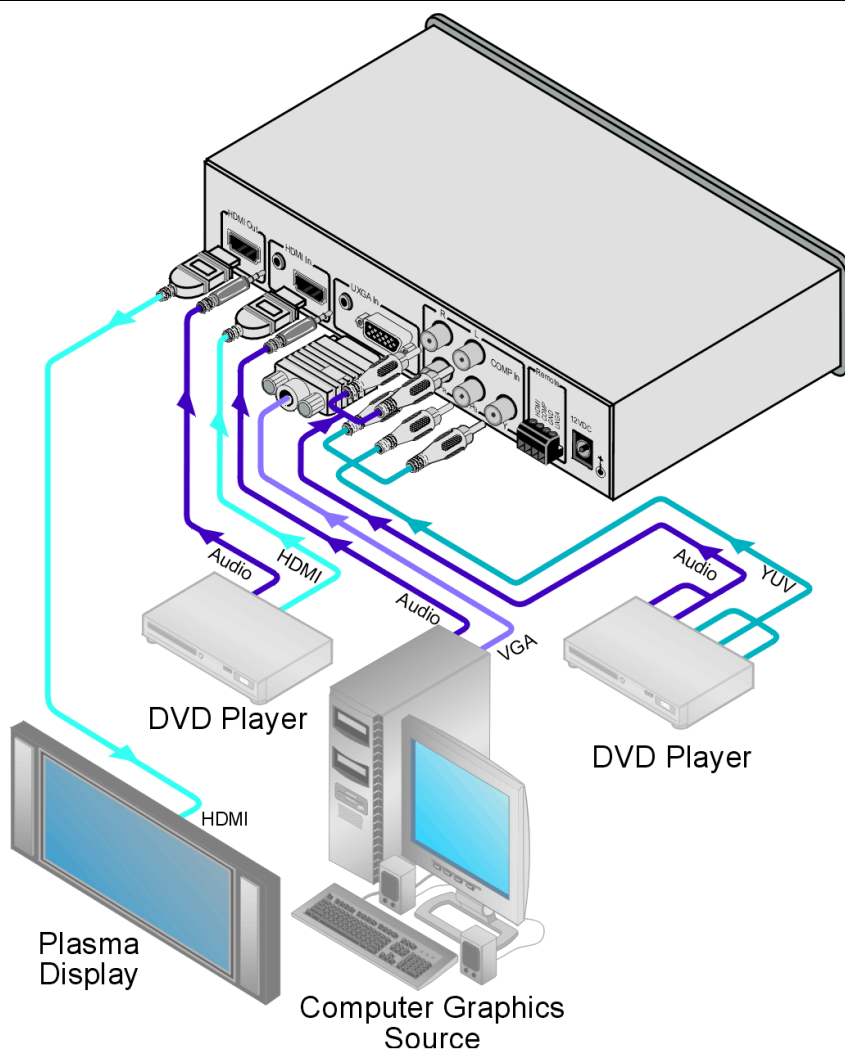


Figure 2: Connecting the VP-435 Component / UXGA HDMI Scaler

5.1 Connecting the Contact Closure Remote Control PINs

The contact closure remote control pins operate in a similar way to the Input selector button. Using the contact closure remote control you can select the HDMI, the COMP or the UXGA input. To do so, temporarily connect the required input¹ pin on the REMOTE terminal block connector to the GND (Ground) pin, as [Figure 3](#) illustrates.

DO NOT Connect more than one PIN to the GND PIN at the same time

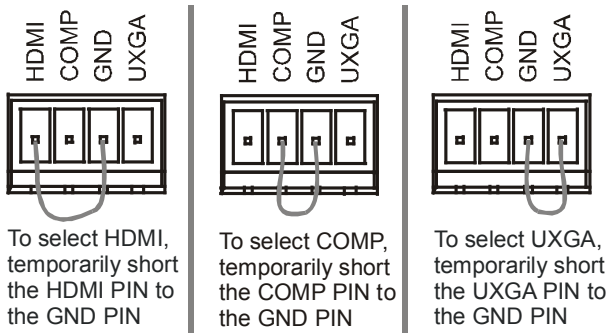


Figure 3: Connecting the Contact Closure Remote Control PINs

¹ HDMI, COMP or UXGA

6 Controlling the VP-435

The **VP-435** can be controlled directly via the front panel buttons (see section [6.1](#)), via the OSD menu (see section [6.2](#)), and/or remotely from the infrared remote control transmitter (see section [6.3](#)).

6.1 Controlling via the Front Panel Buttons

The **VP-435** includes the following front panel buttons:

- An Input selector button for selecting the required input (UXGA, COMP. or HDMI)
- A resolution (Res.) button for selecting the desired resolution
- Control buttons, including the MENU, ENTER, + and – buttons

6.2 Using the CONTROL Buttons

The CONTROL buttons let you control the **VP-435** via the OSD menu. Press the:

- MENU button to enter the menu¹
- ENTER button to accept changes and to change the menu settings
- + and – buttons to move through the OSD menu, which is displayed on the video output

On the OSD menu, select EXIT to exit the menu.

¹ The default timeout is set to 10 seconds

6.2.1 The MAIN MENU

[Table 3](#) defines the MAIN MENU features and functions.

Table 3: The MAIN MENU Features

Mode	Function			
CONTRAST	Set the contrast (0 to 100)			
BRIGHTNESS	Set the brightness (0 to 100)			
FINETUNE	Set the hue, saturation and sharpness (0 to 100)			
COLOR	Set the red, green and blue shades (0 to 100)			
SIZE	Select the size of the display: full, overscan, underscan, letter box, panscan			
OUTPUT	Select the output resolution from the menu:			
	Appears as:	Output resolution:	Appears as:	Output resolution:
	1080I60	1080i @60Hz	NATIVE ¹	
	1080P60	1080p @60Hz	VGA	640x480
	576I	576i	SVGA	800x600
	576P	576p	XGA	1024x768
	720P50	720p @50Hz	SXGA	1280x1024
	1080I50	1080i @50Hz	UXGA	1600x1200
	1080P50	1080p @50Hz	480I	480i
	WXGA	1366x768	480P	480p
	WSXGA	1680x1050	720P60	720p @50Hz
	WUXGA	1920x1200		
OSD	Set the OSD parameters: H POSITION, V POSITION, TIMER, BACKGROUND (see section 6.2.2)			
FACTORY RESET	Resets to the default parameters (resolution is set to VGA ²)			
INFORMATION	Displays the source, the input resolution, the output resolution and the software version			
EXIT	Select to exit the menu			

6.2.2 The OSD Menu

[Table 4](#) defines the OSD menu.

Table 4: The SETUP Menu Features

Parameter	Function
H POSITION	Sets the horizontal position of the OSD (from 0 to 100)
V POSITION	Sets the vertical position of the OSD (from 0 to 100)
TIMER	Sets the timeout period in seconds (from 5 to 100). The default timeout is 10 seconds
BACKGROUND	Sets the OSD background between 0 (solid black) and 8 (transparent)

¹ Select "NATIVE" to select the output resolution from the EDID of the connected HDMI monitor

² If you cannot see the display after factory reset, use the front panel Res. button to set the correct resolution

6.3 Controlling via the Infrared Remote Control Transmitter

You can control the **VP-435** from the infrared remote control transmitter, as [Figure 4](#) and [Table 5](#) define:

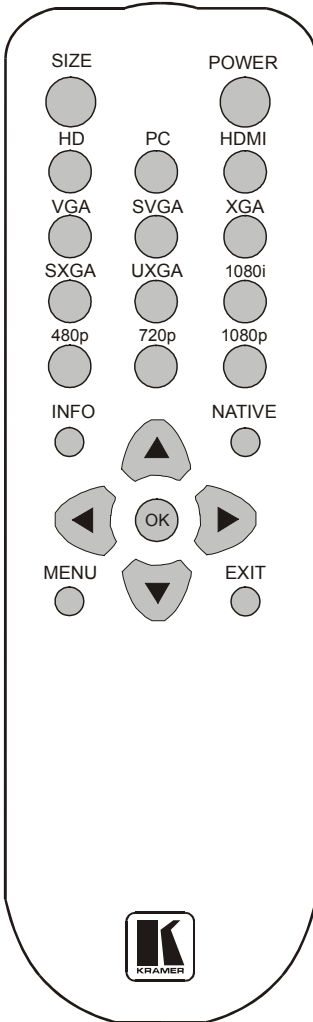


Table 5: Infrared Remote Control Transmitter Functions

Keys	Function
SIZE	Set the size of the image displayed
POWER	Turn the unit VP-434 ON or OFF ¹
HD	Select the component video input
PC	Select the UXGA input
HDMI	Select the HDMI input
VGA	Set the output resolution to VGA
SVGA	Set the output resolution to SVGA
XGA	Set the output resolution to XGA
SXGA	Set the output resolution to SXGA
UXGA	Set the output resolution to UXGA
1080i	Set the output resolution to 1080i
480p	Set the output resolution to 480p
720p	Set the output resolution to 720p
1080p	Set the output resolution to 1080p
INFO	Displays the selected input, the input and output resolutions and the firmware versions on the OSD
NATIVE	Select the output resolution from the EDID of the connected HDMI monitor
	Four navigation keys
OK	Press to accept changes
MENU	Enter the OSD menu
EXIT	EXIT the menu

Figure 4: Infrared Remote Control Transmitter

¹ OFF in this case means that the outputs and the front panel are disabled

7 Technical Specifications

[Table 6](#) includes the technical specifications¹:

Table 6: Technical Specifications of the VP-435 Component / UXGA HDMI Scaler

INPUTS:	1 HDMI connector 1 UXGA on a 15-pin HD connector 1 component video on 3 RCA connectors 1 analog unbalanced stereo audio on a 3.5mini jack connector (for the HDMI input) 1 analog unbalanced stereo audio on a 3.5mini jack connector (for the UXGA input) 2 analog unbalanced stereo audio (left and right) on RCA connectors, 4dBm nominal
OUTPUT:	1 HDMI connector
OUTPUT RESOLUTIONS:	1080i, 1080p, 576i, 576p, 720p, 1080i, 1080p, WXGA, WSXGA, WUXGA, NATIVE, VGA, SVGA, XGA, SXGA, UXGA, 480i, 480p
OUTPUT REFRESH RATE:	60Hz for computer graphics resolutions, 50/60Hz for HDTV resolutions
CONTROLS:	Front panel buttons, contact closure and infrared remote for menu driven OSD control
ADDITIONAL CONTROLS:	Contrast, brightness, hue, saturation and sharpness; red, green and blue; Resolution, image size
POWER SOURCE:	12V DC, 800mA
DIMENSIONS:	21.5cm x 16.1cm x 4.36cm (8.46" x 6.34" x 1.7") W, D, H
WEIGHT:	1.1kg (2.43lb) approx.
ACCESSORIES:	Power supply, IR remote control
OPTIONS	Rack adapter

¹ Specifications are subject to change without notice

LIMITED WARRANTY

Kramer Electronics (hereafter *Kramer*) warrants this product free from defects in material and workmanship under the following terms.

HOW LONG IS THE WARRANTY

Labor and parts are warranted for three years from the date of the first customer purchase.

WHO IS PROTECTED?

Only the first purchase customer may enforce this warranty.

WHAT IS COVERED AND WHAT IS NOT COVERED

Except as below, this warranty covers all defects in material or workmanship in this product. The following are not covered by the warranty:

1. Any product which is not distributed by Kramer, or which is not purchased from an authorized Kramer dealer. If you are uncertain as to whether a dealer is authorized, please contact Kramer at one of the agents listed in the Web site www.kramerelectronics.com.
2. Any product, on which the serial number has been defaced, modified or removed, or on which the WARRANTY VOID IF TAMPERED sticker has been torn, reattached, removed or otherwise interfered with.
3. Damage, deterioration or malfunction resulting from:
 - i) Accident, misuse, abuse, neglect, fire, water, lightning or other acts of nature
 - ii) Product modification, or failure to follow instructions supplied with the product
 - iii) Repair or attempted repair by anyone not authorized by Kramer
 - iv) Any shipment of the product (claims must be presented to the carrier)
 - v) Removal or installation of the product
 - vi) Any other cause, which does not relate to a product defect
 - vii) Cartons, equipment enclosures, cables or accessories used in conjunction with the product

WHAT WE WILL PAY FOR AND WHAT WE WILL NOT PAY FOR

We will pay labor and material expenses for covered items. We will not pay for the following:

1. Removal or installations charges.
2. Costs of initial technical adjustments (set-up), including adjustment of user controls or programming. These costs are the responsibility of the Kramer dealer from whom the product was purchased.
3. Shipping charges.

HOW YOU CAN GET WARRANTY SERVICE

1. To obtain service on your product, you must take or ship it prepaid to any authorized Kramer service center.
2. Whenever warranty service is required, the original dated invoice (or a copy) must be presented as proof of warranty coverage, and should be included in any shipment of the product. Please also include in any mailing a contact name, company, address, and a description of the problem(s).
3. For the name of the nearest Kramer authorized service center, consult your authorized dealer.

LIMITATION OF IMPLIED WARRANTIES

All implied warranties, including warranties of merchantability and fitness for a particular purpose, are limited in duration to the length of this warranty.

EXCLUSION OF DAMAGES

The liability of Kramer for any effective products is limited to the repair or replacement of the product at our option. Kramer shall not be liable for:

1. Damage to other property caused by defects in this product, damages based upon inconvenience, loss of use of the product, loss of time, commercial loss; or:
2. Any other damages, whether incidental, consequential or otherwise. Some countries may not allow limitations on how long an implied warranty lasts and/or do not allow the exclusion or limitation of incidental or consequential damages, so the above limitations and exclusions may not apply to you.

This warranty gives you specific legal rights, and you may also have other rights, which vary from place to place.

NOTE: All products returned to Kramer for service must have prior approval. This may be obtained from your dealer.

This equipment has been tested to determine compliance with the requirements of:

- EN-50081: "Electromagnetic compatibility (EMC);
generic emission standard.
Part 1: Residential, commercial and light industry"
- EN-50082: "Electromagnetic compatibility (EMC) generic immunity standard.
Part 1: Residential, commercial and light industry environment".
- CFR-47: FCC* Rules and Regulations:
Part 15: "Radio frequency devices
Subpart B Unintentional radiators"

CAUTION!

- ☒ Servicing the machines can only be done by an authorized Kramer technician. Any user who makes changes or modifications to the unit without the expressed approval of the manufacturer will void user authority to operate the equipment.
- ☒ Use the supplied DC power supply to feed power to the machine.
- ☒ Please use recommended interconnection cables to connect the machine to other components.
* FCC and CE approved using STP cable (for twisted pair products)



For the latest information on our products and a list of Kramer distributors, visit our Web site: www.kramerelectronics.com, where updates to this user manual may be found. We welcome your questions, comments and feedback.



Caution

Safety Warning:

Disconnect the unit from the power supply before opening/servicing.



Kramer Electronics, Ltd.

Web site: www.kramerelectronics.com

E-mail: info@kramerel.com

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